9th International Congress of Dipterology

Abstracts Volume

25–30 November 2018
Windhoek
Namibia

Organising Committee:

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Edited by:
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Front cover image: Tray of micro-pinned flies from the Democratic Republic of Congo (photograph © K. Pannecoucke).

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Bioecology of three main *Culicoides* Latreille species (Ceratopogonidae), vectors of equine and ruminant virus in Senegal

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Several species of *Culicoides* Latreille are involved in the transmission of viruses and nematodes in the Afrotropical Region. Vector-borne diseases caused by viruses transmitted by *Culicoides* biting midges have a renewed interest in West Africa, due to recent major outbreaks, including African Horse Sickness in Senegal in 2007, causing a financial loss estimated at €1.37 million. Although of major economic importance, the bioecology of *Culicoides* species still needs to be explored. The aim of this study was to use innovative ecological approaches for describing the trophic behaviour of *C. kingi* Austen, *C. imicola* Kieffer and *C. oxystoma* Kieffer, as well as their larval habitats in equine environments of the Niayes area, Senegal. These *Culicoides* species are vectors of internationally important viruses of livestock and equids. Firstly , blood meal source in these *Culicoides* species were identified. A correlation was then made between blood meal source (identified in engorged *Culicoides* females collected in a suction light trap) and the available vertebrate hosts along four concentric rings (200, 500, 1,000 and 2,000 m) centred at the trap site, to determine the foraging range of the three vector species. Finally, the larval habitats and spatial temporal dynamics of immature populations of these species were studied. This work completes the corpus of bioecological knowledge of *Culicoides* in the Niayes area of Senegal and proposes research needs to better control the immature and adult populations of vector species in order to better anticipate and prevent *Culicoides*-borne disease outbreaks.